UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,963	06/20/2001	Eric Menard	1200.495	4435

7590 12/29/2004

Longacre & White
Suite 240
6550 Rock Spring Drive
Bethesda, MD 20817

EXAMINER	
SHIMIZU, MATSUICHIRO	
ART UNIT	**PAPER NUMBER**
2635	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/883,963	MENARD ET AL.	
	Examiner	Art Unit	
	Matsuichiro Shimizu	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments with respect to claims 12-24 filed on 9/14/2004 have been considered but are moot in view of the new grounds of rejection taught by Bates.

Therefore, rejection of claims 12-24 follows:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambropoulos (5,736,935) in view of Bates (6,057,779).

Regarding claim 12, Lambropoulos teaches a system for controlling locking/unlocking means of at least one openable panel of a vehicle, comprising:

vehicle transmission/reception means carried by the vehicle, comprising vehicle memory means comprising a vehicle register in which is stored random code (col. 4, lines 29-50, random number associated with security code 100 and 102); vehicle transmission means for transmitting an interrogation signal (col. 4, lines 63-65, interrogator C); and vehicle decode means for decoding a response signal received and for verifying whether the received signal carries a signature of a user transmission means (col. 7, lines 10-12, security code associated with random number (col. 4, lines 46-50)); and user transmission/reception means intended to be carried by a user for transmitting the response signal for controlling unlocking actuation of the operable panel (col. 7, lines 30-35, door unlocked), comprising user memory means comprising a user register in which is stored the random code (col. 4, lines 41-50, security code associated with random number (col. 4, lines 46-50)); user decoding means for decoding the transmission signal received (col. 6, lines 14-21, recovering baseband data); and the user transmission means for transmitting the response signal which carries the random code and the signature which is specific to the user transmission/reception means (col. 7, lines 6-19, random code associated with security code 100 and function code associated with signature 108). But Lambropoulos does not teach vehicle memory means comprising a vehicle circular shift register in which is stored a pseudo-random code; vehicle transmission means for transmitting an interrogation signal which carries the pseudo-random code; and vehicle de-spreading means for de-spreading a response signal received unless a pseudo-random code carried by the response signal is not synchronized in substantial correlation with a corresponding pseudo-random code stored in the vehicle memory means by a shift less than required for an intermediate transmission means to

intercept and retransmit a response signal; and user memory means comprising a user circular shift register in which is stored the pseudo-random code; user de-spreading means for de-spreading the transmission signal received unless the pseudo-random code carried by the interrogation signal is not synchronized in substantial correlation with the corresponding pseudo-random code stored in the user memory means by a shift less than required for an intermediate transmission means to intercept and retransmit the interrogation signal; and the user transmission means for transmitting the response signal which carries the pseudo-random code and the signature which is specific to the user transmission/reception means.

However, Bates teaches, in the art of spread communication system, memory means comprising a vehicle circular shift register (col. 7, lines 7-15, lock is enabled 22; col. 7, lines 54-67, memory stages associated with feedback shift register or circular shift register) in which is stored a pseudo-random code (col. 7, lines 54-67, memory stages associated with feedback shift register or circular shift register); vehicle transmission means (col. 7, lines 16-19, transmitting spread spectrum signal) for transmitting a signal which carries the pseudo-random code; and vehicle de-spreading means (col. 7, lines 42-45, de-spreading means or un-spread and restore the modulated message) for de-spreading a response signal received unless a pseudo-random code carried by the response signal is not synchronized in substantial correlation with a corresponding pseudo-random code stored in the vehicle memory means (note; see Ziemer, figs. 7-8 and 7-9, pages 336-337, for delay of less than half bit of chip length, autocorrelation associated with correlation is greater than one half provides sufficient synchronization considering system noise; of course, for delay of near zero autocorrelation is almost unity wherein the user is right by the door); and

user memory means comprising a user circular shift register in which is stored the pseudo-random code; user de-spreading means for de-spreading the transmission signal received unless the pseudo-random code carried by the interrogation signal is not synchronized in substantial correlation with the corresponding pseudo-random code stored in the user memory (col. 7, lines 32-34, user associated with interrogator 47 or the device user 32; col. 7, lines 54-67, memory stages associated with feedback shift register or circular shift register); and the user transmission means (col. 7, lines 32-34, user associated with interrogator 47 or the device user 32) for transmitting the response signal which carries the pseudo-random code (col. 7, lines 38-42, psuedo random carrier) for the purpose of reducing noise effect and of preventing the intercept and retransmit to unlock the door, that is, retransmitted signal can not generate high enough correlation to provide "yes" vote to unlock the door (note; see Ziemer, figs. 7-8 and 7-9, pages 336-337, for delay of less than half bit of chip length, autocorrelation associated with correlation is greater than one half provides sufficient synchronization considering system noise; of course, for delay of near zero autocorrelation is almost unity wherein the user is right by the door). Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to include memory means comprising a vehicle circular shift register in which is stored a pseudo-random code; vehicle transmission means for transmitting a signal which carries the pseudo-random code; and vehicle de-spreading means for de-spreading a response signal received unless a pseudo-random code carried by the response signal is not synchronized in substantial correlation with a corresponding pseudo-random code stored in the vehicle memory means; and user memory means comprising a user circular shift register in which is stored the pseudo-random code;

user de-spreading means for de-spreading the transmission signal received unless the pseudo-random code carried by the interrogation signal is not synchronized in substantial correlation with the corresponding pseudo-random code stored in the user memory; and the user transmission means for transmitting the response signal which carries the pseudo-random code in the device of Lambropoulos because Lambropoulos suggests vehicle memory means comprising a vehicle register in which is stored random code; vehicle transmission means for transmitting an interrogation signal; and vehicle decode means for decoding a response signal received and for verifying whether the received signal carries a signature of a user transmission means; and user transmission/reception means intended to be carried by a user for transmitting the response signal for controlling unlocking actuation of the operable panel, comprising user memory means comprising a user register in which is stored the random code; user decoding means for decoding the transmission signal received; and the user transmission means for transmitting the response signal which carries the random code and the signature which is specific to the user transmission/reception means and Bates teaches memory means comprising a vehicle circular shift register in which is stored a pseudo-random code; vehicle transmission means for transmitting a signal which carries the pseudo-random code; and vehicle de-spreading means for de-spreading a response signal received unless a pseudo-random code carried by the response signal is not synchronized in substantial correlation with a corresponding pseudo-random code stored in the vehicle memory means; and user memory means comprising a user circular shift register in which is stored the pseudo-random code; user de-spreading means for de-spreading the transmission signal received unless the pseudo-random code carried by the interrogation signal is not synchronized in

substantial correlation with the corresponding pseudo-random code stored in the user memory; and the user transmission means for transmitting the response signal which carries the pseudo-random code for the purpose of reducing noise effect and of preventing the intercept and retransmit to unlock the door, that is, retransmitted signal can not generate high enough correlation to provide "yes" vote to unlock the door.

Regarding claim 13, Lambropoulos teaches a system according to claim 12, wherein: the interrogation signal transmitted by the vehicle transmission/reception means comprises a key code (Fig. 2, interrogation code 104); and the response signal transmitted by the user transmission/reception means comprises a secret code (Fig. 1, security code 50) determined by the user transmission/reception means as a function of the key code (Fig. 1, received key code matches with stored key code 52).

Regarding claim 14, Lambropoulos in view of Yamamoto teaches a system according to claim 13, wherein the vehicle transmission/reception means further comprise a mixing means for mixing the key code (Lambropoulos-Fig. 2, interrogation code 104) with the pseudo-random code (Bates-col. 7, lines 16-19, modulated spread spectrum signals) carried by the interrogation signal (Lambropoulos-Fig. 2, interrogation code 104 or signal).

Regarding claim 15, Lambropoulos in view of Yamamoto teaches a system according to claim 13, wherein the vehicle transmission/reception means further comprise a mixing means for mixing the key code (Lambropoulos-Fig. 2, interrogation code 104) with the pseudo-random code (Bates-col. 7, lines 16-19, modulated spread spectrum signals) carried by the response signal (Lambropoulos-col. 7, lines 6-19,

random code associated with security code 100 and function code associated with signature 108).

Regarding claim 16, Lambropoulos in view of Yamamoto teaches a system according to claim 13, wherein the key code (Lambropoulos-Fig. 2, interrogation code 104) comprises the pseudo-random code (Bates-col. 7, lines 16-19, modulated spread spectrum signals) of the interrogation signal.

Regarding claim 17, Bates teaches a system according to claim 12, wherein the signature consists of the pseudo-random code (col. 7, lines 16-19, modulated spread spectrum signals) of the response signal.

Regarding claim 18, Bates teaches a system according to claim 12, wherein the system comprises means for synchronizing (col. 8, lines 1-19, post synch associated with spread signal) the vehicle memory means and the user memory means prior to transmission of the interrogation signal.

Regarding claim 19, Bates teaches a system according to claim 18, wherein: the pseudo-random code comprises a post-synchronization pseudo-random code (col. 8, lines 1-19, post synch associated with spread signal); the user transmission/reception means transmits a pre-synchronization pseudo random code (col. 7, lines 34-36, PN code) upon activation of the user transmission/reception means; and the vehicle transmission/reception means comprise means for self-synchronizing (col. 7, lines 38-45, extract the modulated message) with the pre-synchronization pseudo-random code (col. 7, lines 38-45, psuedo random code PN) transmitted by the user transmission/reception means.

Regarding claim 20, Bates teaches a system according to claim 19, wherein the pre-synchronization pseudo-random code (col. 7, lines 38-45, psuedo random

code PN) is shorter than the post-synchronization pseudo-random code (col. 7, lines 16-19, modulated spread spectrum signals with added synchronization code).

Regarding claim 21, Bates teaches a system according to claim 20, wherein the post-synchronization pseudo-random code comprises repetition of 31-chip sequence (col. 8, lines 31-56, 31 chip or bit sequence). But Lambropoulos in view of Bates does not teach 127-bit codes.

However, Bates discloses, in the art of vehicle security, post-synchronization pseudo-random code comprises repetition of 31 chip sequence (col. 8, lines 31-56, 31 chip or bit sequence). Therefore, it would have been obvious to a person skilled in the art at the time of invention was made to include psuedo-random code is 127 bit code as a matter of choice in design because Bates suggests repetition of 31 chip sequence and one skilled in the art recognizes 127 bit code is a matter of choice in design through routine experimentation in order to achieve optimum two-way communication.

Regarding claim 22, Bates teaches a system according to claim 12, wherein the interrogation signals and response signals comprise RF signals modulated by a two-phase NRZ modulation (col. 8, lines 10-13, PSK suggests BSK or binary SK).

Regarding claim 23, Lambropoulos teaches a system according to claim 12, wherein the vehicle is an automobile (col. 2, lines 26-46, vehicle associated with seat control, Keyless entry system, unlocking door).

Regarding claim 24, Bates teaches a system according to claim 12, wherein the shift comprises less than one half of a bit period with respect to the code of the user circular shift register (col. 7, lines 46-59, value of autocorrelation suggests shift of half bit teaches greater than one half unit; note- Ziemer, figs. 7-8 and 7-9, pages 336-

337, for delay of less than half bit of chip length, autocorrelation associated with correlation is greater than one half provides sufficient synchronization considering system noise; of course, for delay of near zero autocorrelation is almost unity wherein the user is right by the door).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matsuichiro Shimizu whose telephone number is (703) 306-5841. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached on (703-305-4704). The fax phone number for the organization where this application or proceeding is assigned is (703-305-3988).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-8576).

Matuichiro Shimizu

December 20, 2004

BRIAN ZIMMERMAN
PRIMARY EXAMINER